

VI.—*Examination of a Mineral Exudation from Ghazni.* By H. PIDDINGTON, Esq.

[Among the specimens of minerals and drugs received from SYED KERA'MAT ALI, and collected by him while on Government employ in *Cábul*, as noticed in the Proceedings of the Asiatic Society, 7th October, 1835, a bottle containing a mineral exudation from Ghazni excited attention; it was labelled by Lieutenant CONOLLY,

“*Rock Chetny which, according to the Syed's informant, oozes out of a fissure in a rock at Ghizni. Native appellation Mumia? A. C.*”

Having placed this in Mr. PIDDINGTON'S hands for chemical analysis, we now hasten to publish the account he has been so kind as to draw up of the results of his examination.—ED.]

I.—*Description.* An unctious, viscid mass, semi-transparent, of a dirty light-brown colour, interspersed with small dark-brown and black specks; and mixed with angular fragments of calcareous rock, varying from the size of a lentil to that of a horse-bean.

The smell faint and sickly, and very peculiar. The taste pungent; when diluted with water sickly.

II.—*Tests.* 1. Solution in cold distilled water is turbid and clogs the filter; does not affect litmus or turmeric papers.

2. When boiled the same. The residue contained calcareous stones with a little siliceous matter, and a coarse bran-like powder, which when freed from the calcareous matter by dilute muriatic acid, proved to be the remains of half decomposed dung; evidently, by comparison with fresh dung, that of birds, and probably of pigeons or bats, &c. I recognised in it minute fragments of straw, pith, shells of seeds, &c. The brown and black specks were minute seeds, quite perfect, or fragments of a carbonaceous looking crust.

3. Boiled in highly rectified alcohol, silky crystals were left in the mass, which was now tough and pasty: these crystals were nitrate of soda. The alcohol evaporated was found to yield nearly pure nitrate of lime, mixed with a little fatty and very foetid animal matter.

4. The solutions were tested by—

	Oxalate of ammonia, giving plentiful precipitate.	Lime.
Muriate of barytes; } nitrate of silver; }	slight cloud.	{ Trace of sulphates and muriates.
Sulphuric acid to } concentrated solution; }	{ nearly solidified it, and evolved fumes of nitric acid.	{ Nitric acid.
Gold leaf boiled in solution, } with a little muriatic acid added; }	dissolved.	Nitric acid.
Muriate of platina;	no effect.	No potass.
Tincture of galls;	no effect.	No iron.
Nitro-muriate of gold, } Deuto-chloride mercury; }	no effect.	No albumen.
Tannin;	no effect.	No gelatine.

To the chemist some of this may look superfluous, but I was always suspicious (and thought the fact worth ascertaining), that this singular looking compound might be artificial.

On platina foil, before the blow-pipe, it tumifies with strong effervescence, blackens, decrepitates with minute sparks, and passes into a whitish mass. The platina scarcely affected.

The bran-like matter left from the aqueous and muriatic solution, No. 2, was heated in a tube in which litmus and turmeric papers with a bit of silver foil were so disposed, that the vapour from the assay would pass over them. When heated, a strong ammoniacal (burnt feather) smell was evolved, followed by a sickly odour like that of turf, or tan refuse. The upper part of the tube was browned as from turf smoke. The silver foil and test papers were no way affected, proving the absence of sulphur or matters affording ammonia in this residuum.

#### Analysis.

In a compound necessarily so variable, little more satisfaction was to be expected from an analysis than the test afforded, saving that of being convinced that nothing had been overlooked; 400 grains of it gave

By alcohol and water,	{ Nitrate of lime, with a little fatty } { animal matter, ..... }	162·5
	Nitrate of soda, .....	23·5
By muriatic acid, Carbonate of lime, from the rocky fragments,		136·5
	Water by an independent experiment,	62·0
	Residuum of dung of birds, with a very little siliceous matter and sulphate of lime, .....	9·5
		394·0
	Loss, ....	6·0
		400

Assuming the information on the label to be correct, we may suppose that the fissure from which this "rock Chetny" oozes communicates with some limestone cavern frequented by birds, (or in which are large deposits of animal matter,) from which or from the decomposition of the dung, as in many similar situations, the nitrates of lime and soda are formed and gradually ooze out. The presence of the vegetable remains and the absence of all traces of bitumen or sulphur, quite exclude the idea of its being "*Mumia*," as suggested on the label. I have somewhere seen it mentioned, that a nitre cave, as they are commonly called (I think in Kentucky), produces a matter assuming this unctuous, but not the viscid, state, but cannot now recollect the work.